KIC 009279846

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_\star$ ($R_\odot$)	$T_\star$ (K)	R_p ($R_\oplus$)	S_p ($S_\oplus$)
009279846-01	OBS	No	520.446161	328.133975	1111.5	6.133	8.9	5.5	0.74	4957	2.62	0.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009279846-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS

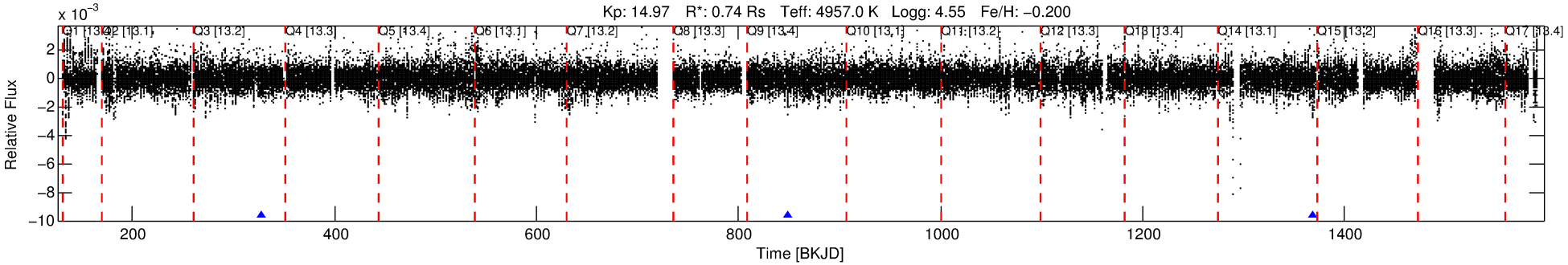
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

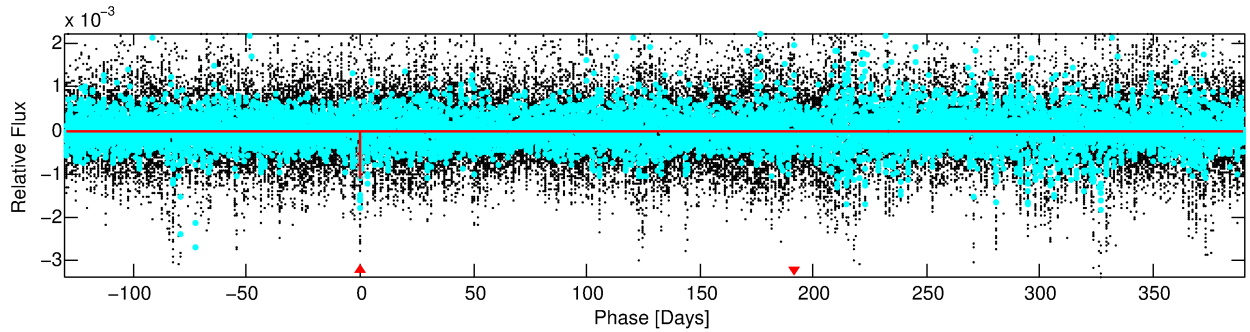
Ephemeris Match Information For 009279846-01

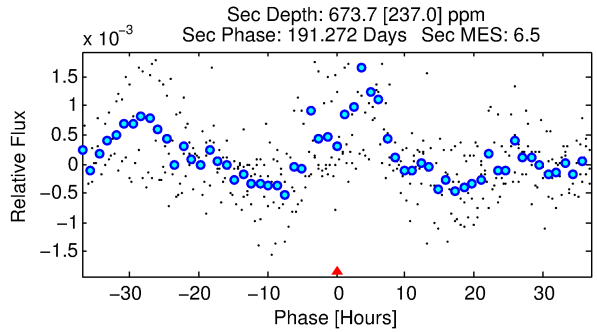
No Significant Match Found

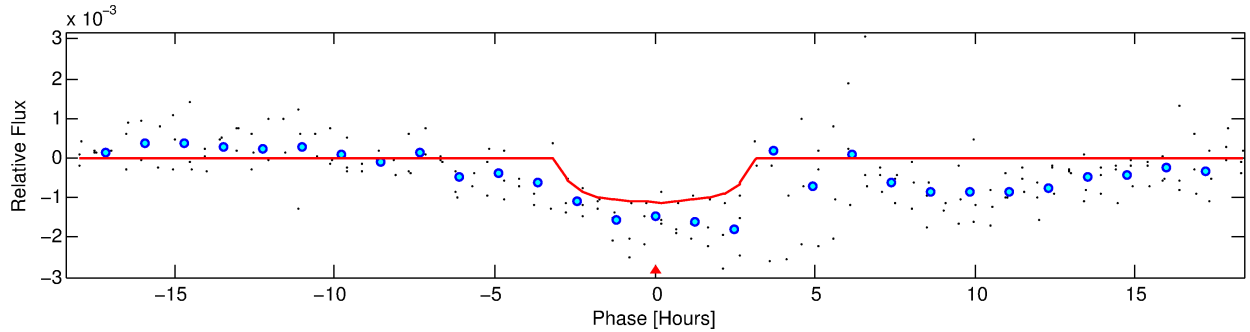
DV One-Page Summary

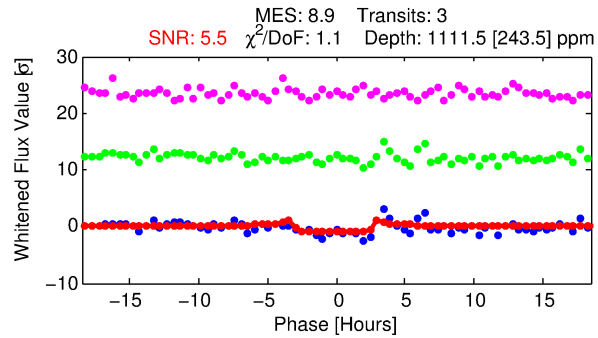
KIC: 9279846 Candidate: 1 of 1 Period: 520.446 d

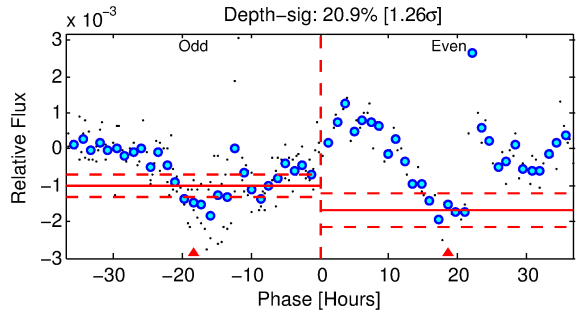


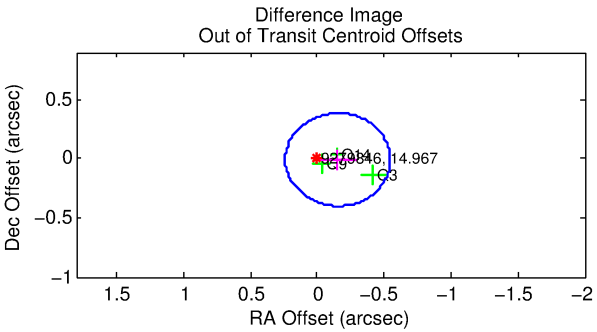












DV Fit Results:

Period = 520.44616 [0.00854] d
Epoch = 328.1340 [0.0104] BKJD
Rp/R* = 0.0325 [0.0223]
a/R* = 497.31 [1159.63]
b = 0.69 [1.77]

Seff = 0.23 [0.04]
Teq = 177 [7] K
Rp = 2.62 [1.81] Re
a = 1.1306 [0.0965] AU

Ag = 69222.07 [98433.58] [0.70σ]
Teffp = 4431 [1573] K [2.70σ]

DV Diagnostic Results:

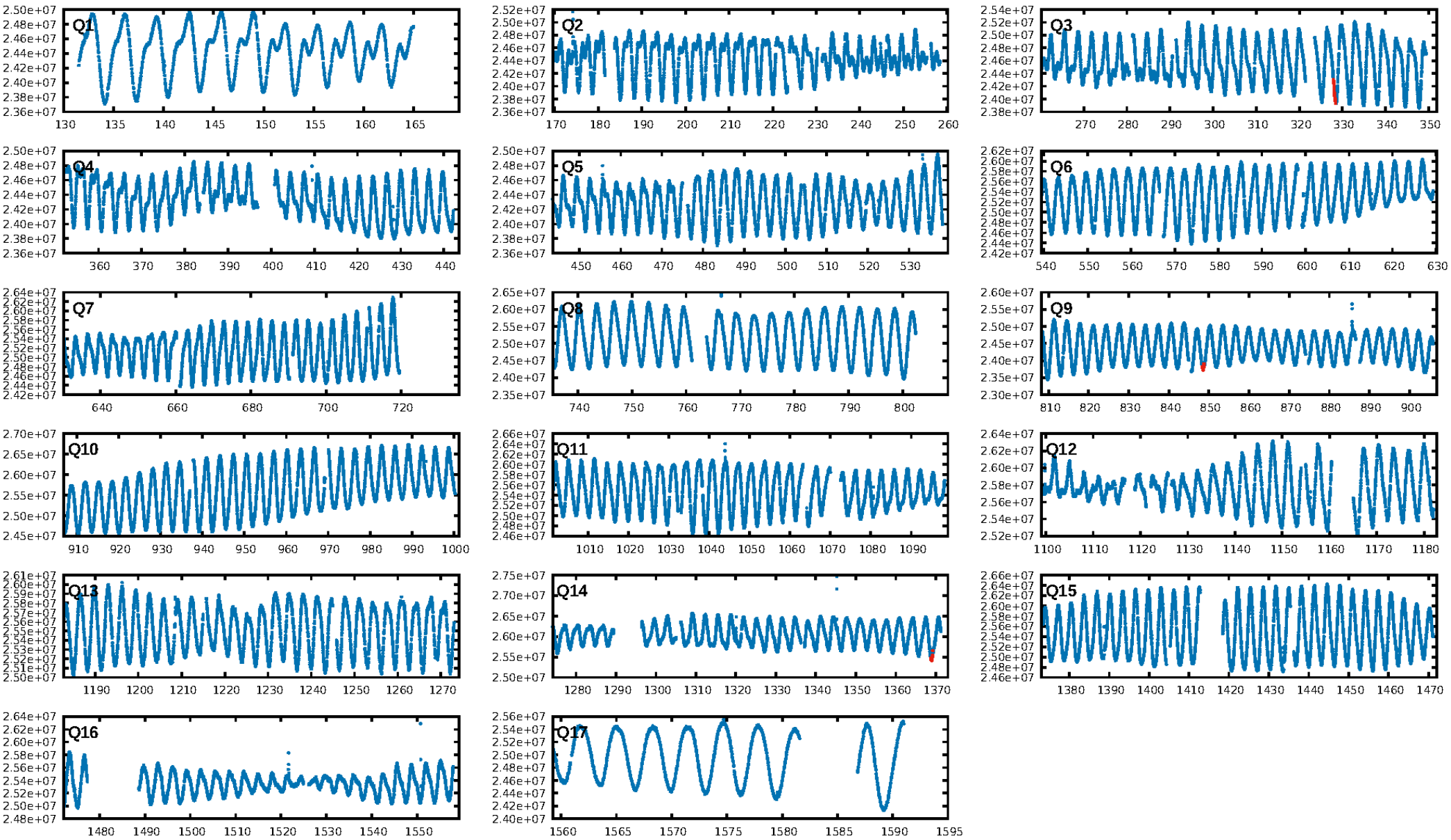
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 35.2%
ModelChiSquareGof−sig: 98.0%
Bootstrap−pfa: 3.29e−08
RollingBand−fgt: 1.00 [3/3]
GhostDiagnostic−chr: 1.044

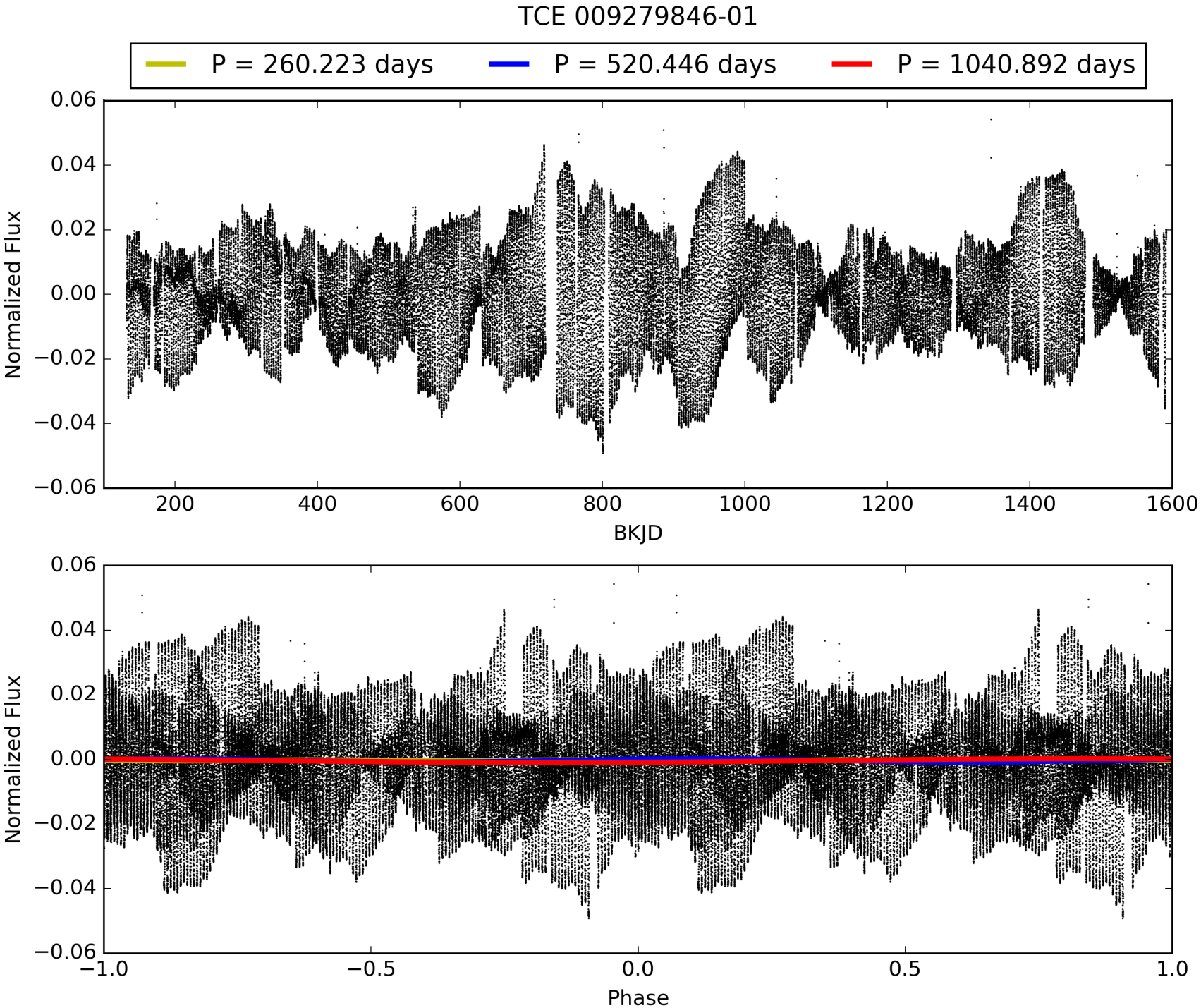
Centroid−sig: 2.4%
Centroid−so: 1.971 arcsec [2.19σ]
OotOffset−rm: 0.154 arcsec [1.18σ]
KicOffset−rm: 0.187 arcsec [1.34σ]
OotOffset−st: 1/1/0/1 [3]
KicOffset−st: 1/1/0/1 [3]
DiffImageQuality−fgm: 1.00 [3/3]
DiffImageOverlap−fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 17:11:28 Z

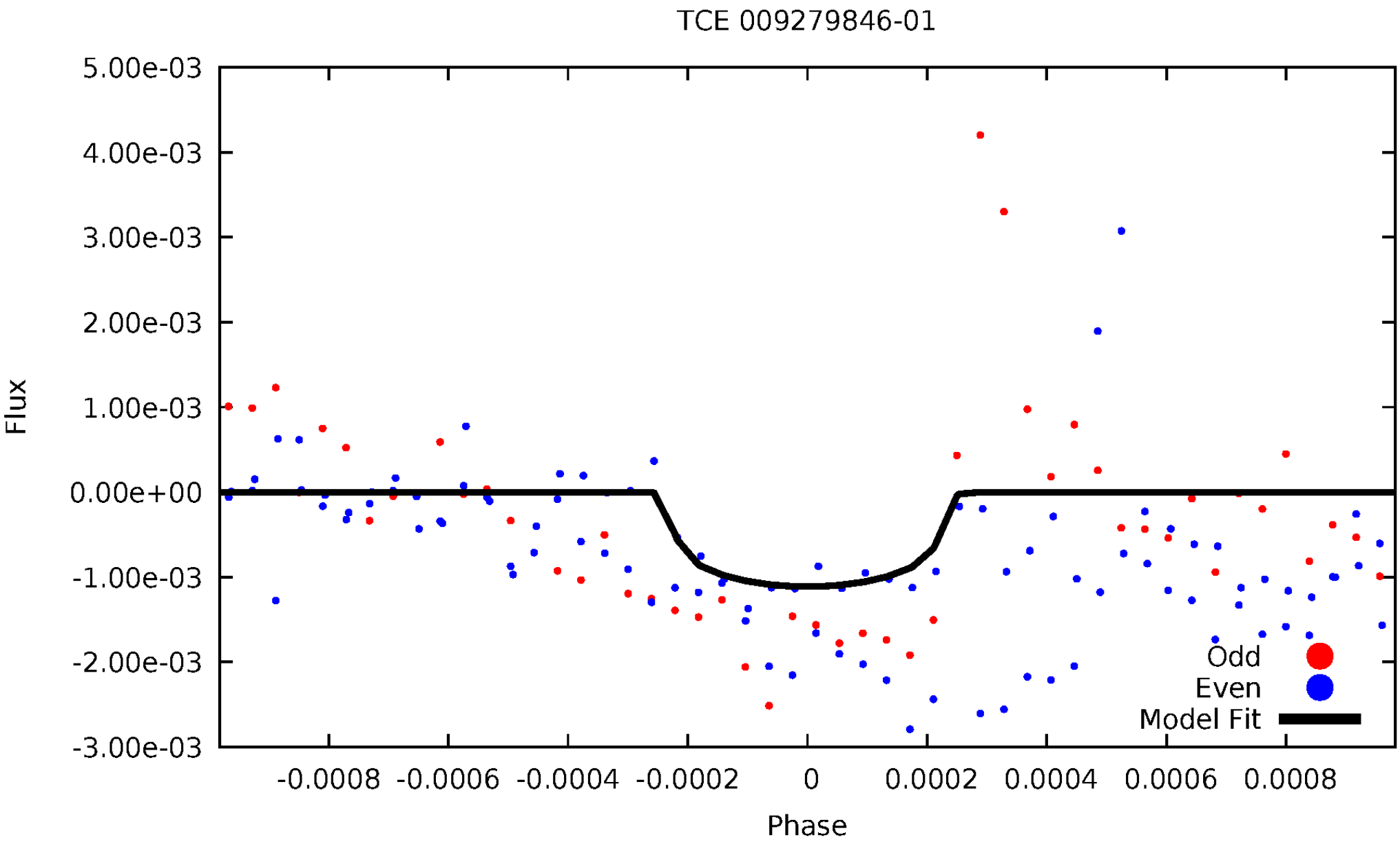
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009279846-01, PDC Light Curves




TCE 009279846-01
P = 260.223 days
P = 520.446 days
P = 1040.892 days
Normalized Flux
BKJD
Phase
0.06
0.04
0.02
0.00
−0.02
−0.04
−0.06
200
400
600
800
1000
1200
1400
1600
−1.0
−0.5
0.0
0.5
1.0

DV Odd/Even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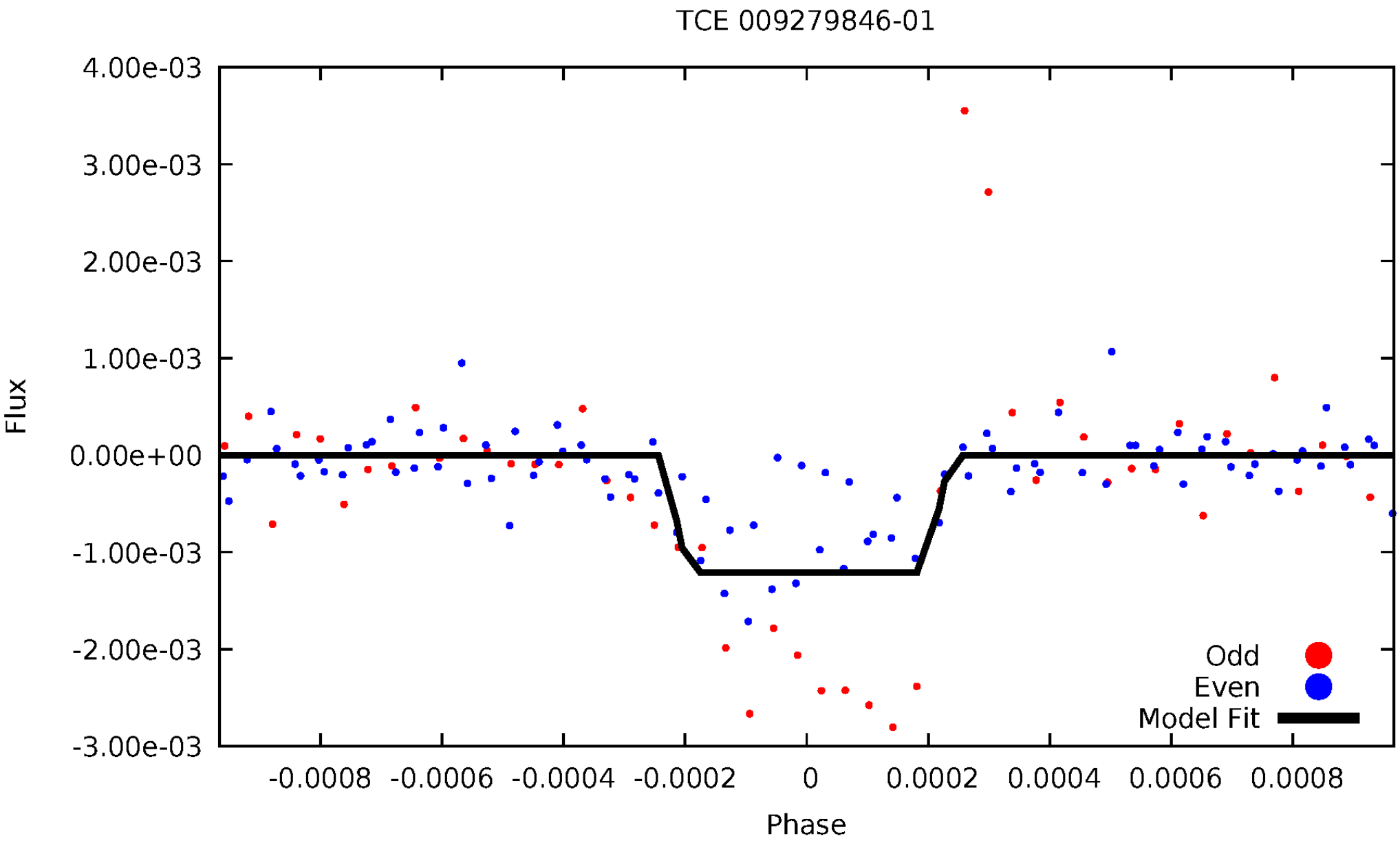
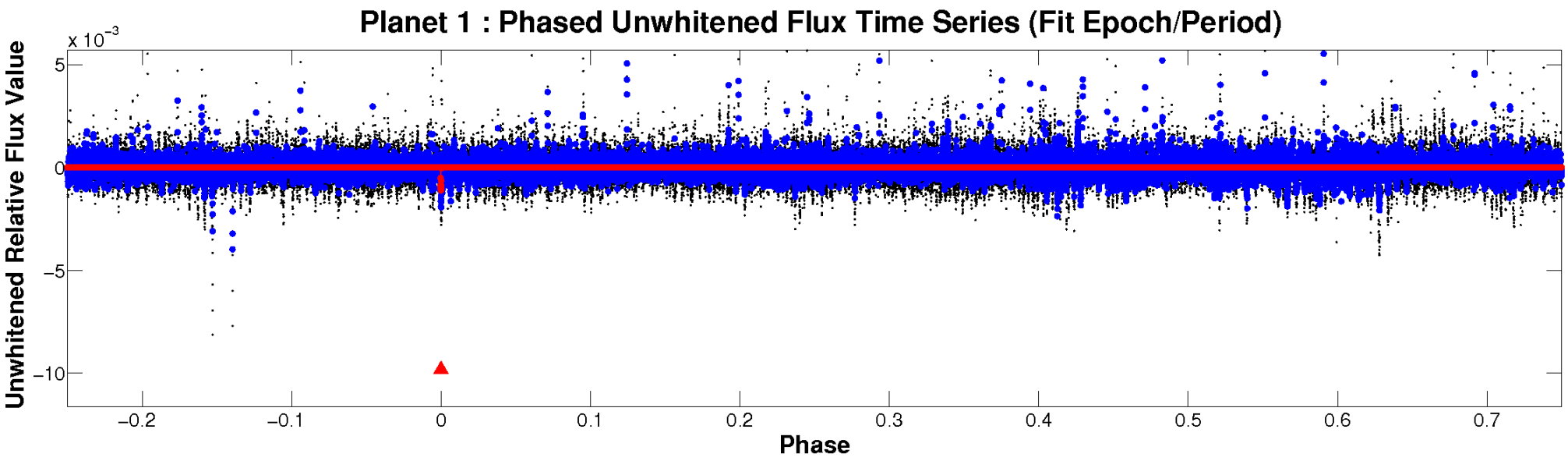
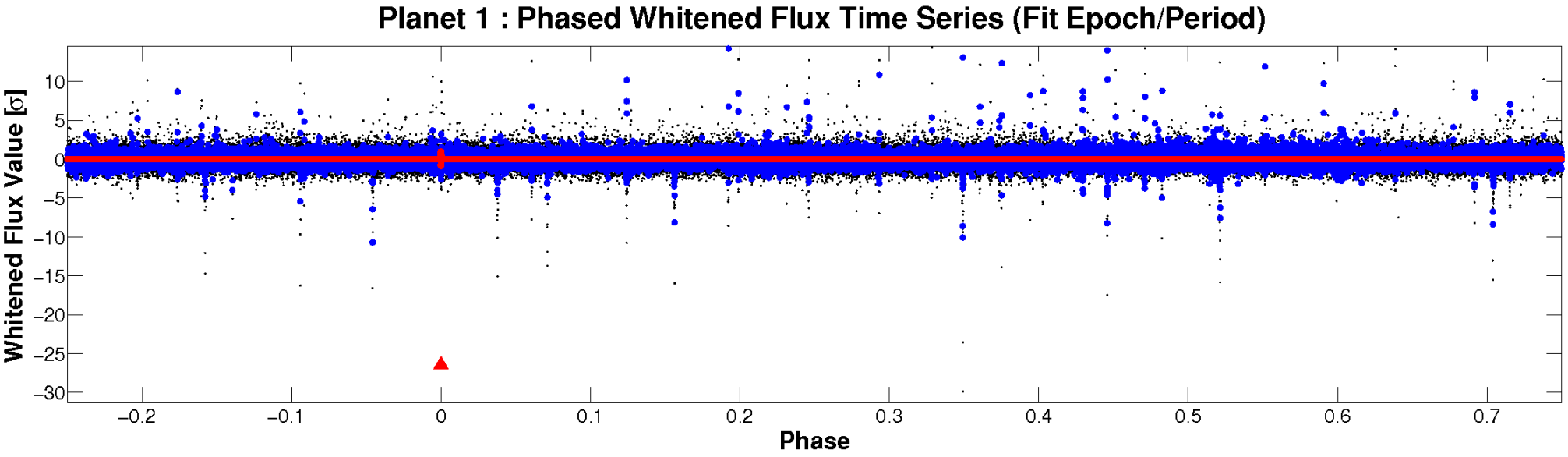
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009279846-01
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.0008
-0.0006
-0.0004
-0.0002
0
0.0002
0.0004
0.0006
0.0008
Phase
Odd
Even
Model Fit

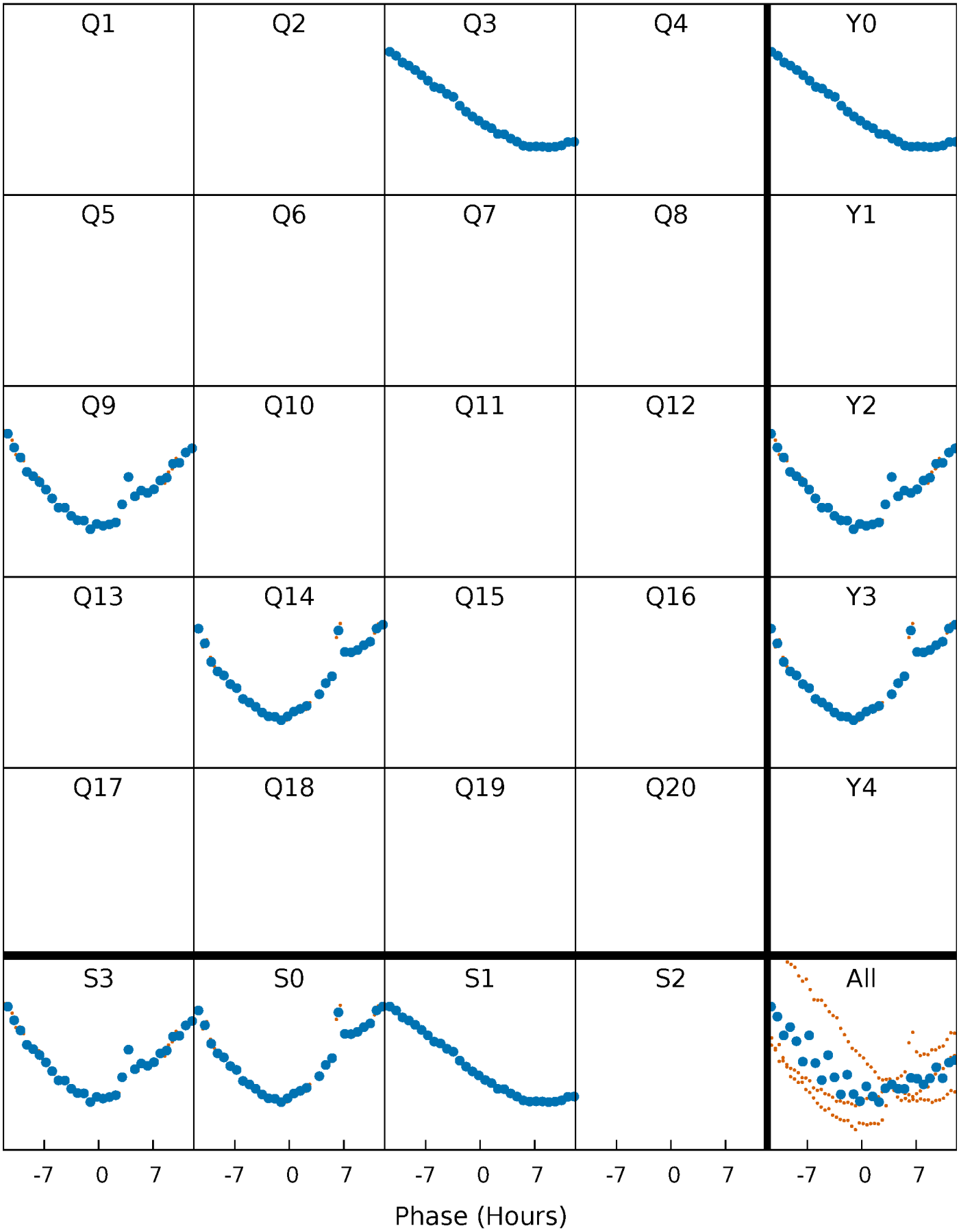
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 009279846-01 P=520.446161 Days T_0=328.133975 (BKJD)



DV Quarter-Phased Transit Curves

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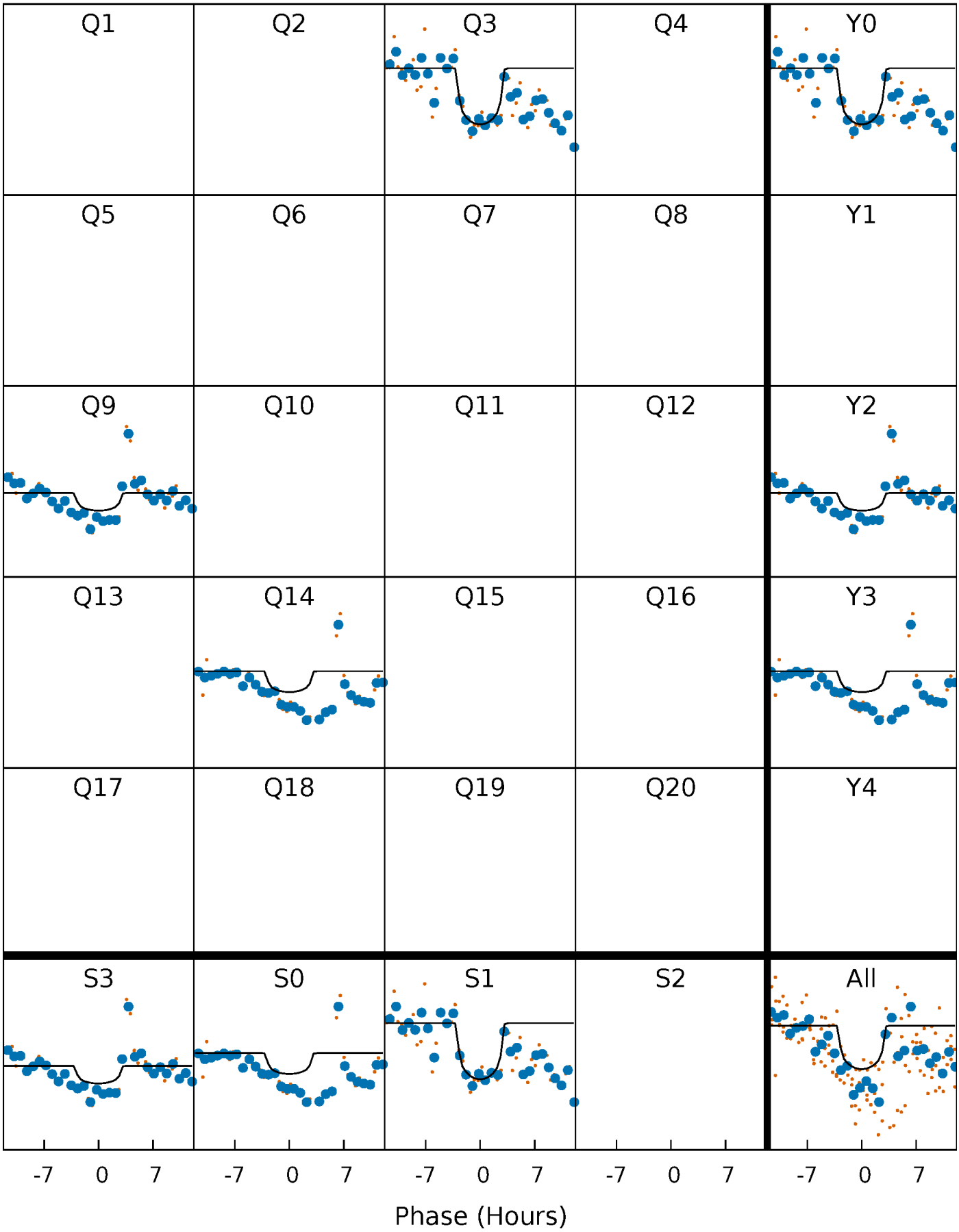
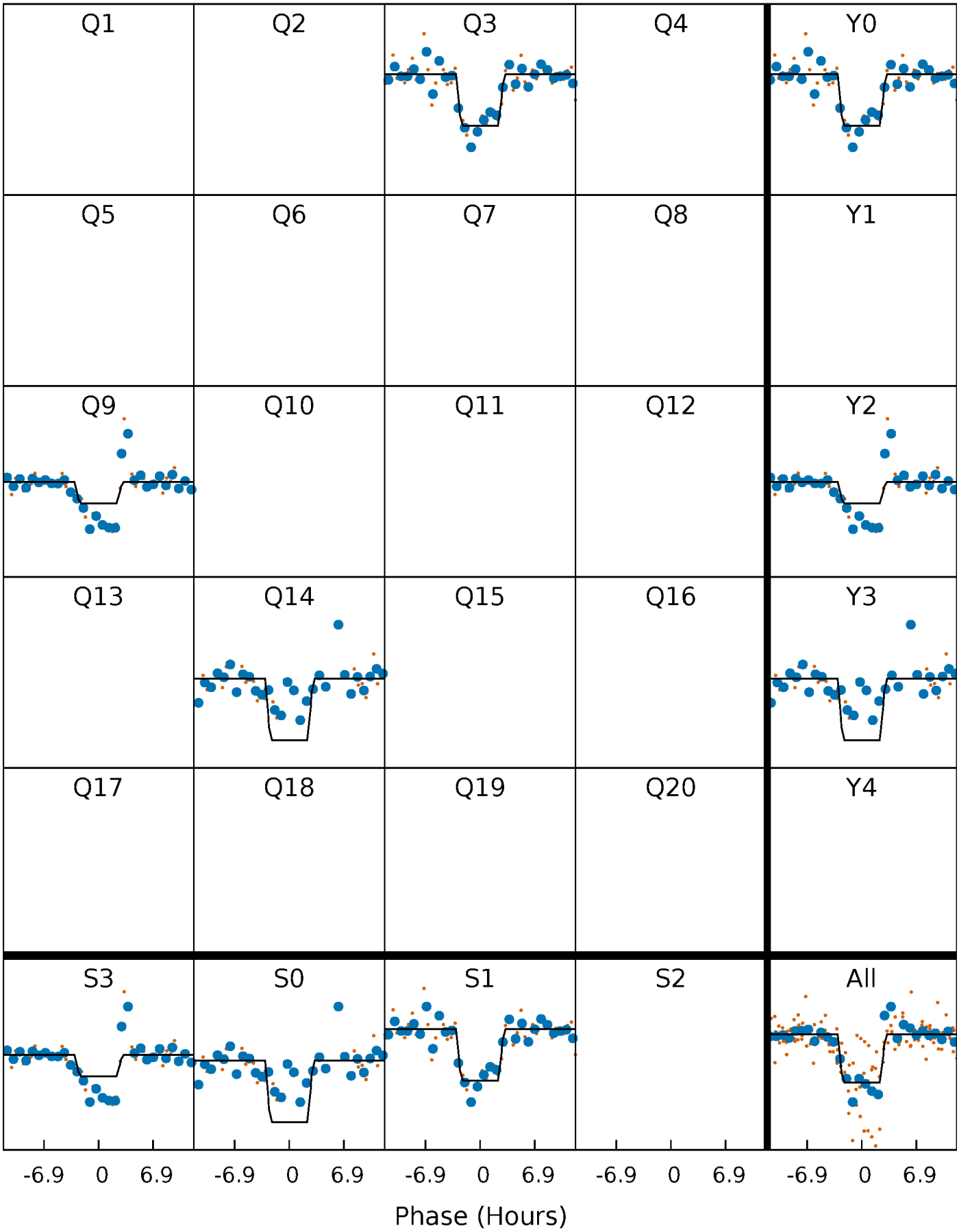


Alt. Detrend Quarter-Phased Transit Curves

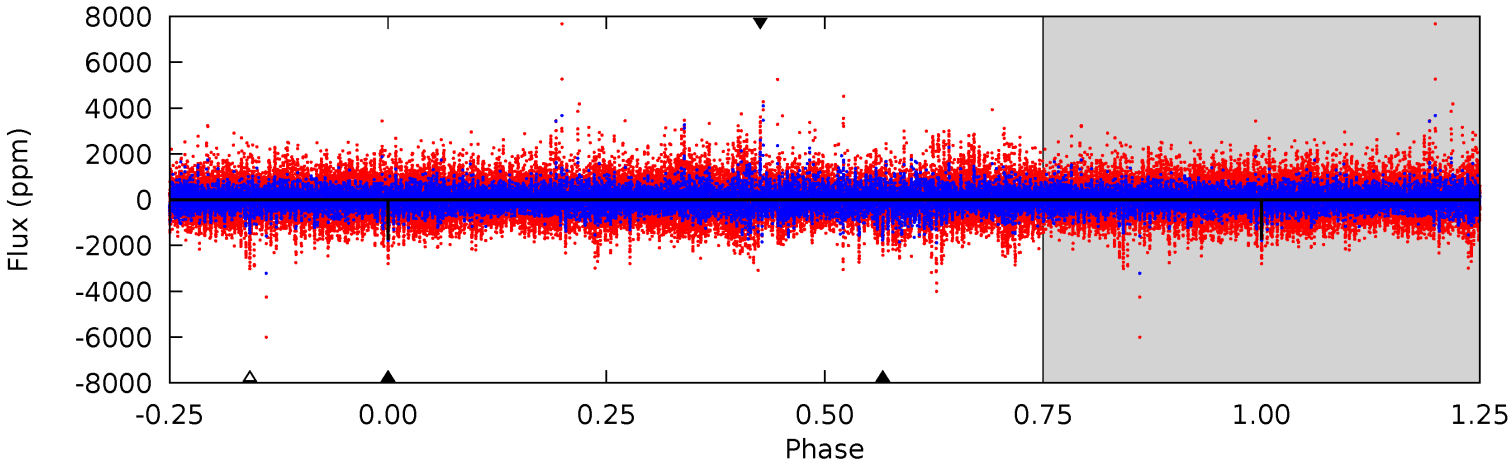
TCE 009279846-01 P=520.463207 Days T_0=328.132167 (BKJD)

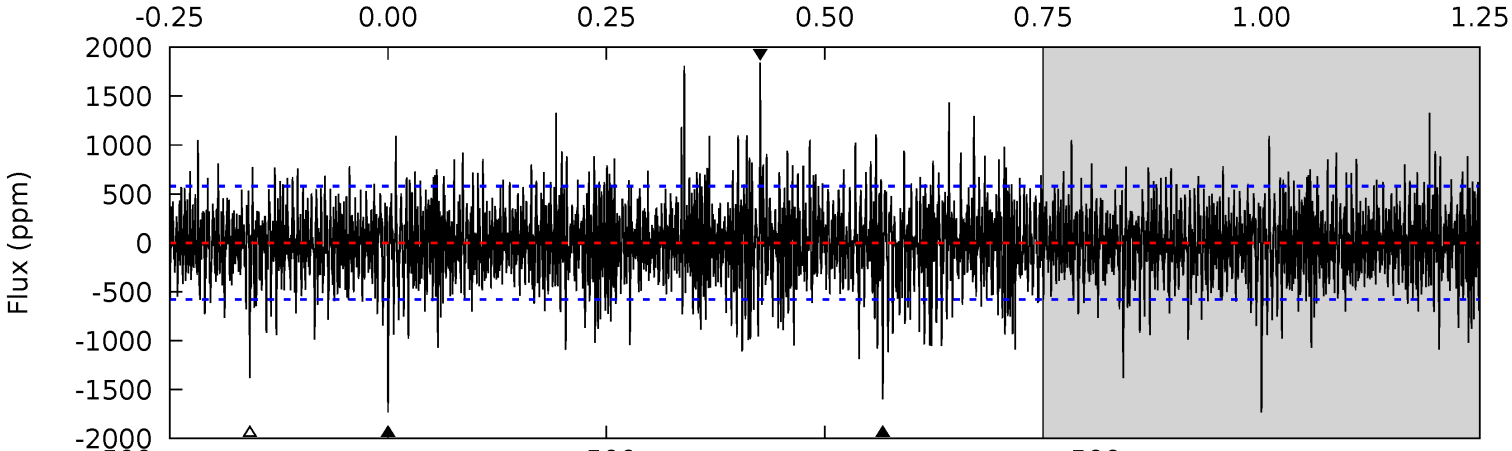


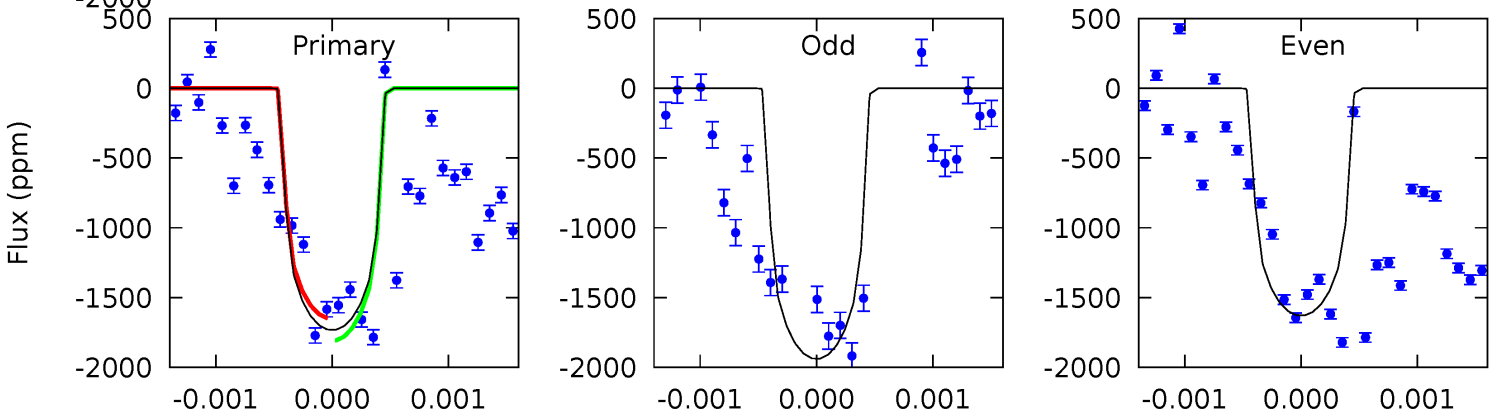
DV Model-Shift Uniqueness Test

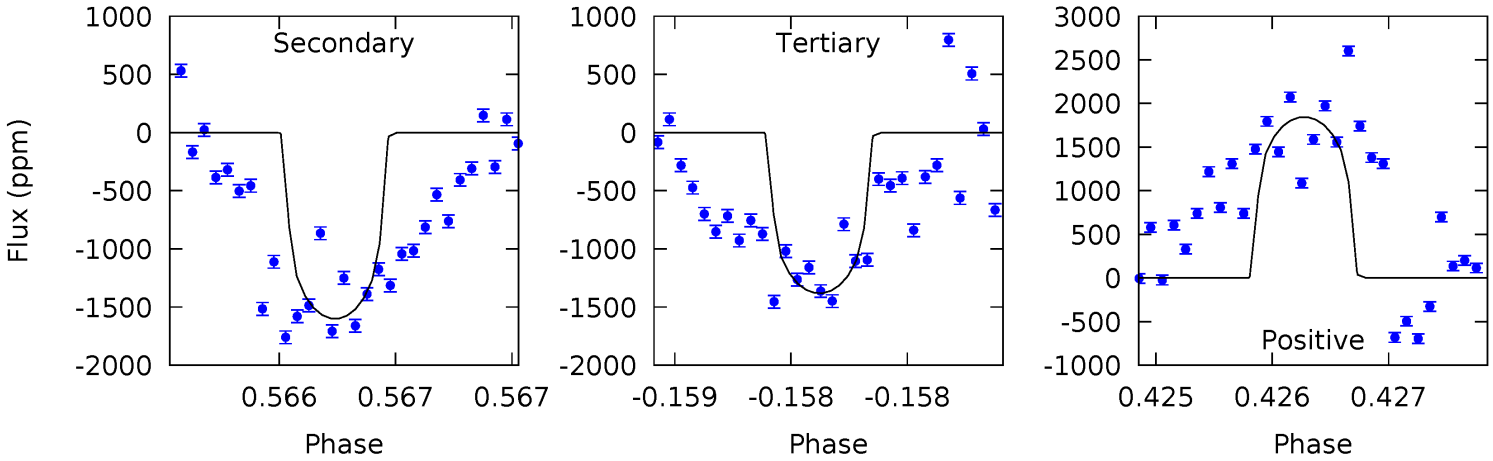
009279846-01, P = 520.446161 Days, E = 328.133975 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	15.3	13.2	17.7	5.56	3.46	3.28	3.37	-1.07	2.10	-2.34	1.21	0.89	0.52	0.77





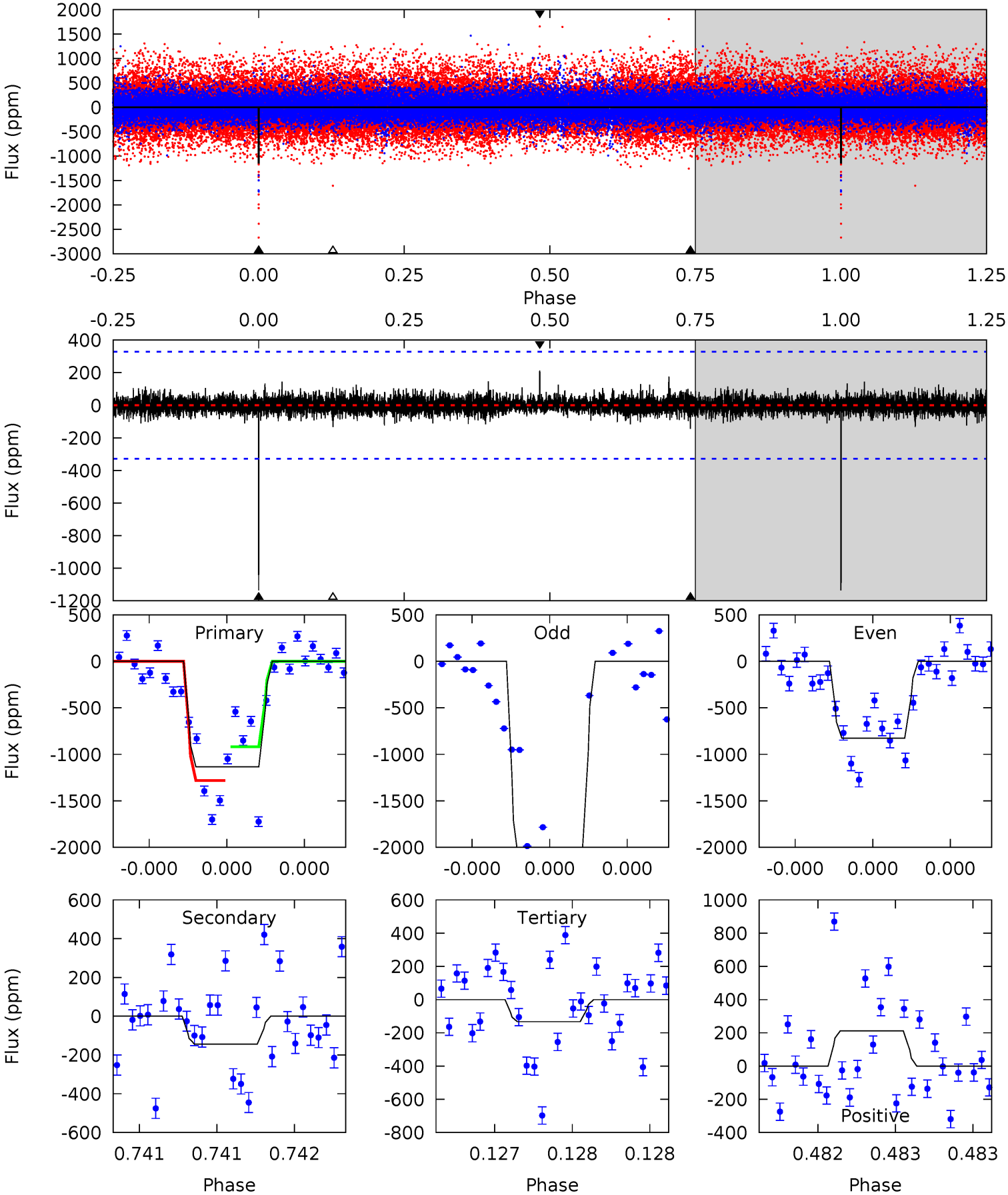




Alt Model-Shift Uniqueness Test

009279846-01, P = 520.463207 Days, E = 328.132167 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	2.45	2.26	3.62	5.60	3.52	0.51	17.1	15.7	0.19	-1.18	11.7	1.05	0.16	3.10



Stellar Parameters For KIC 009279846

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	4957^{+136}_{-136}	$4.554^{+0.072}_{-0.042}$	$-0.200^{+0.300}_{-0.300}$	$0.738^{+0.065}_{-0.072}$	$0.712^{+0.093}_{-0.050}$	$2.490^{+0.748}_{-0.400}$
	+3%/-3%	+2%/-1%	+150%/-150%	+9%/-10%	+13%/-7%	+30%/-16%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009279846-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1599±104	$2.69^{+1.81}_{-1.47}$	246^{+8}_{-9}	5372^{+2664}_{-988}	$158140^{+589481}_{-100379}$
Alt.	-143±59	$2.84^{+1.91}_{-1.58}$	245^{+9}_{-9}	3330^{+997}_{-500}	11876^{+48031}_{-7959}

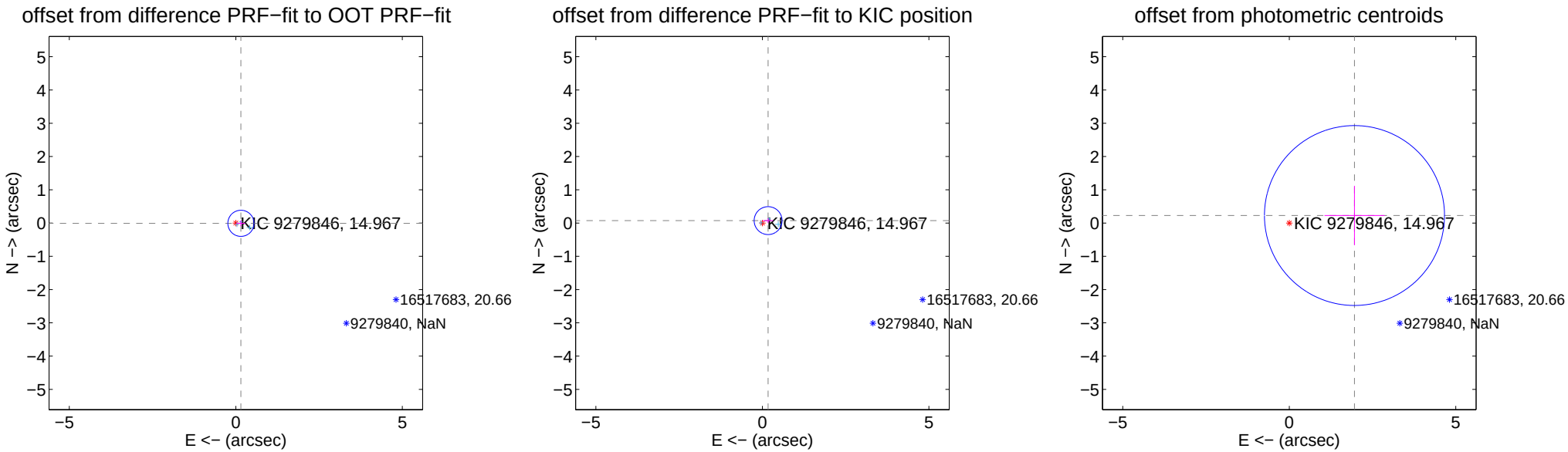
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

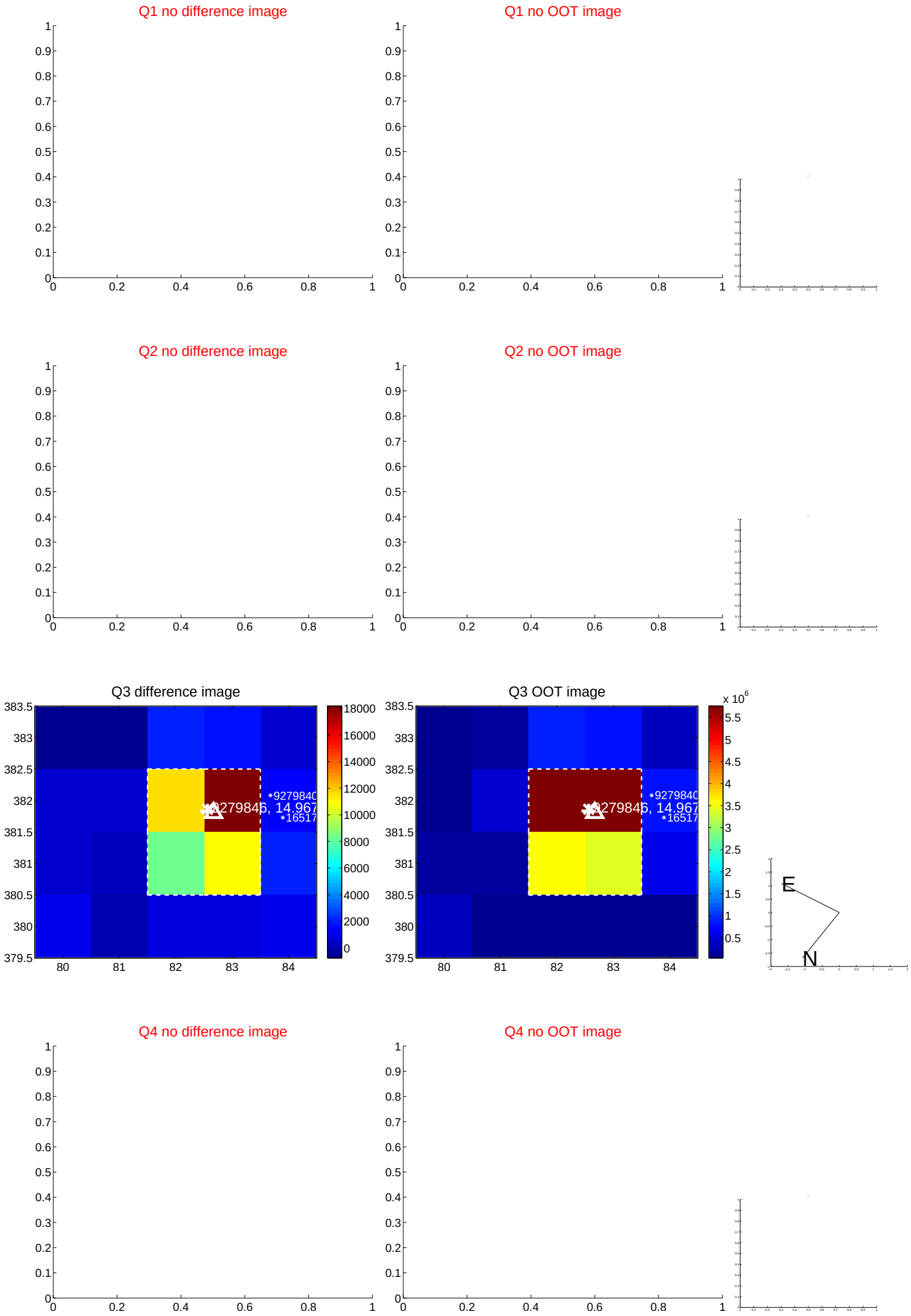
Supplemental centroid analysis for 009279846-01. Kepler magnitude: 14.97. Transit SNR 5.48
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.154 ± 0.131	1.18	-0.154 ± 0.129	-0.008 ± 0.083
PRF-fit source offset from KIC position	0.187 ± 0.140	1.34	-0.172 ± 0.153	0.073 ± 0.072
photometric centroid source offset	1.97 ± 0.90	2.19	-1.96 ± 0.90	0.23 ± 0.89

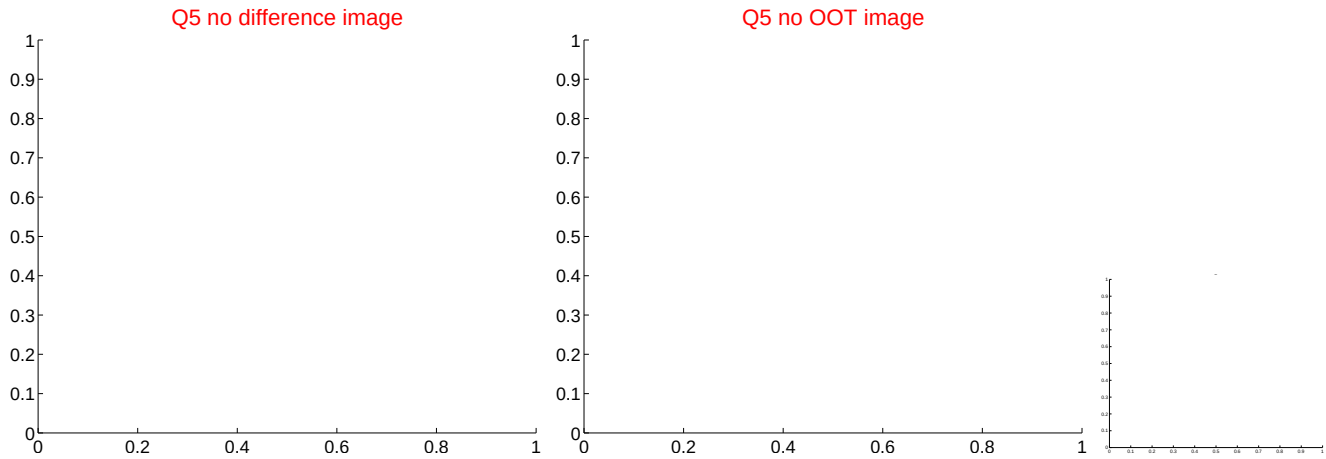


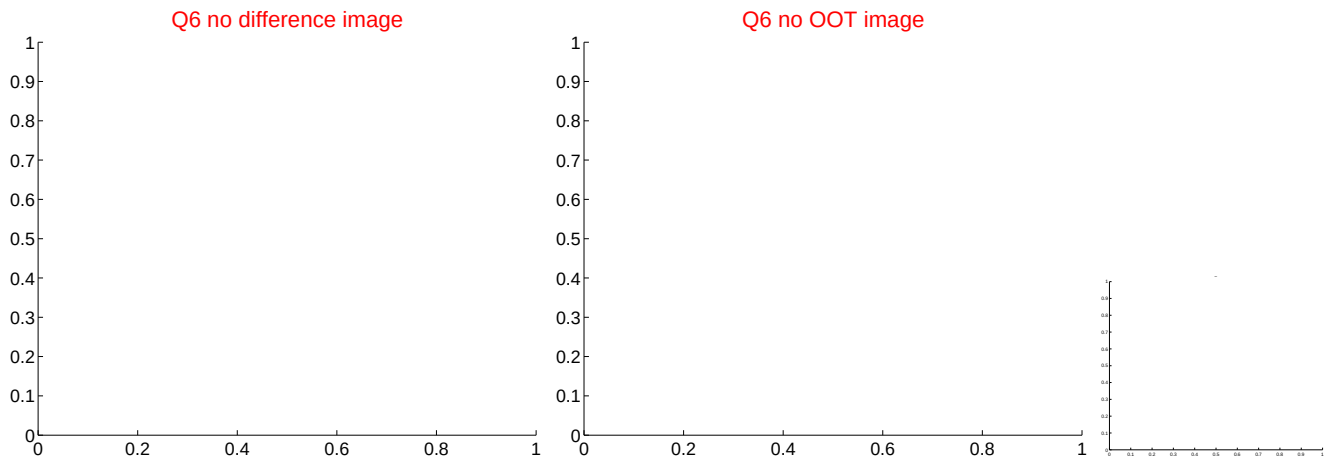
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

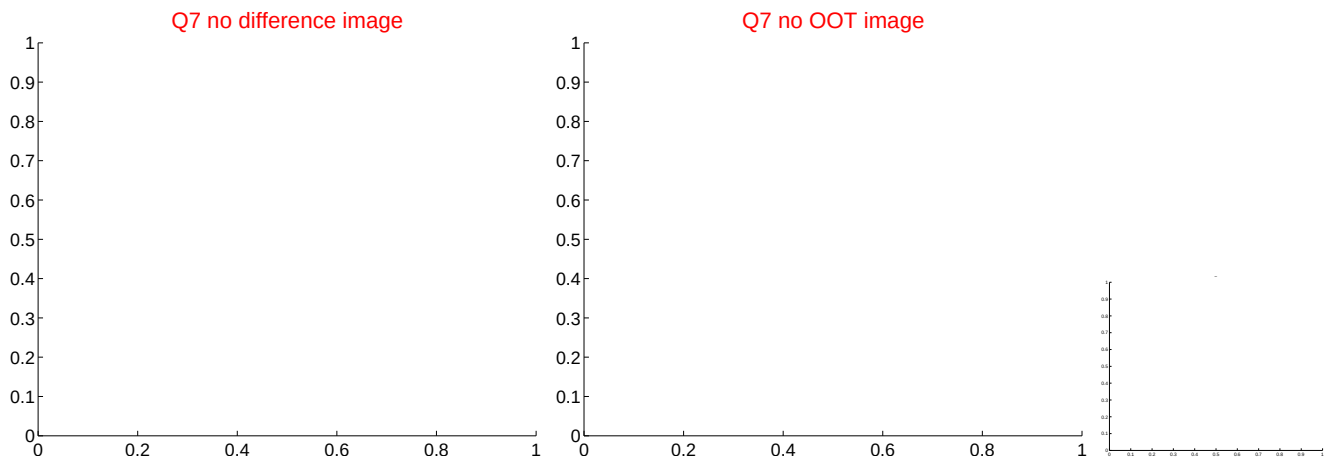
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

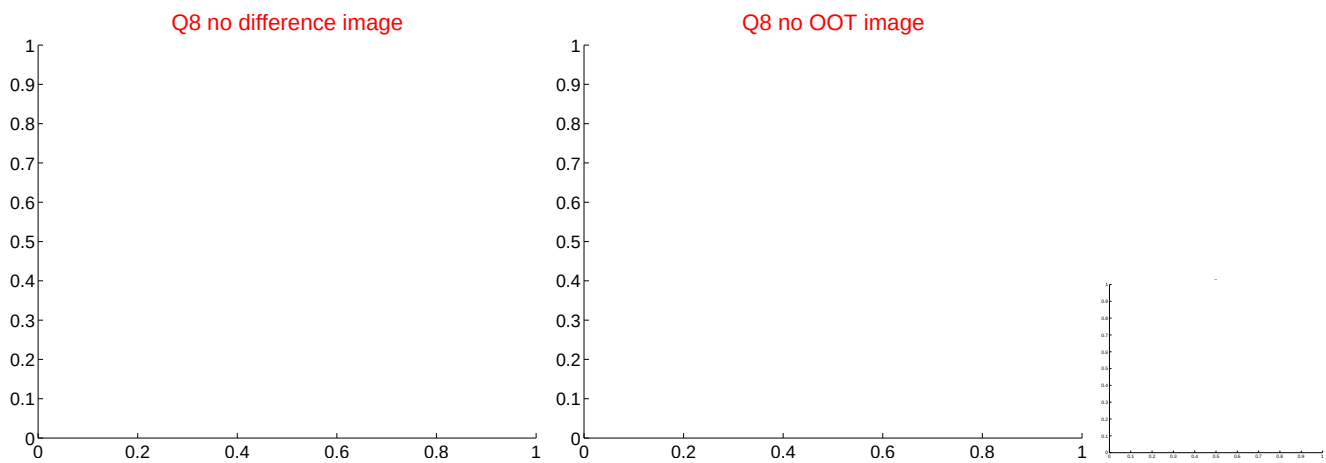


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

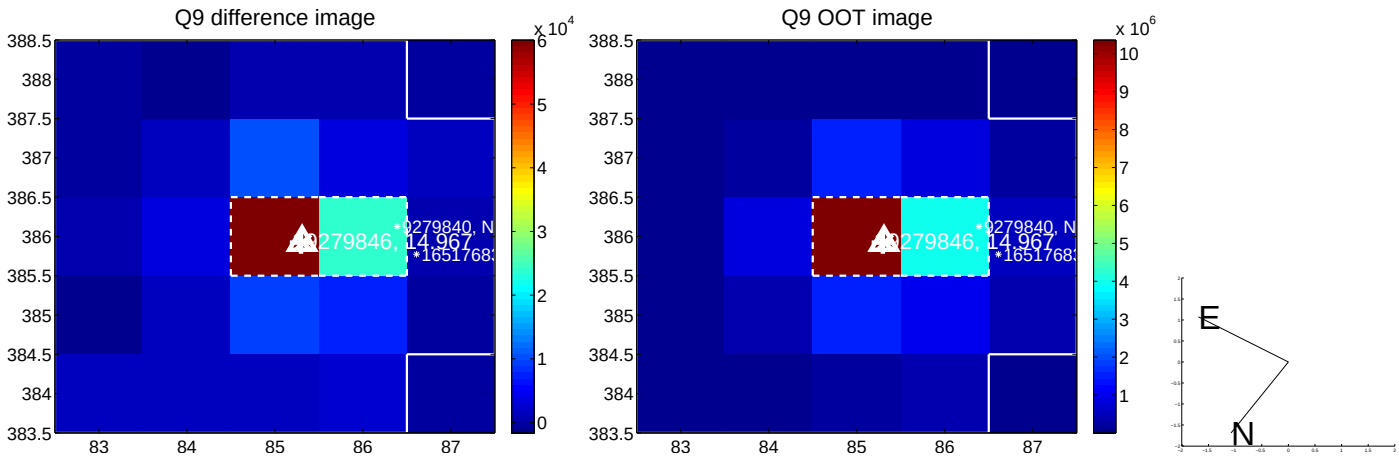


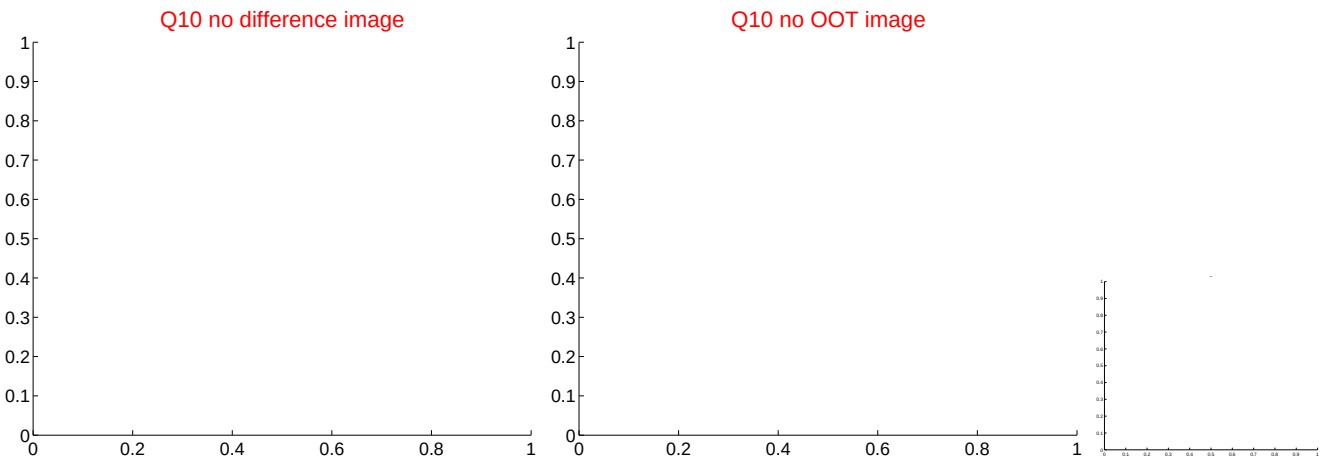


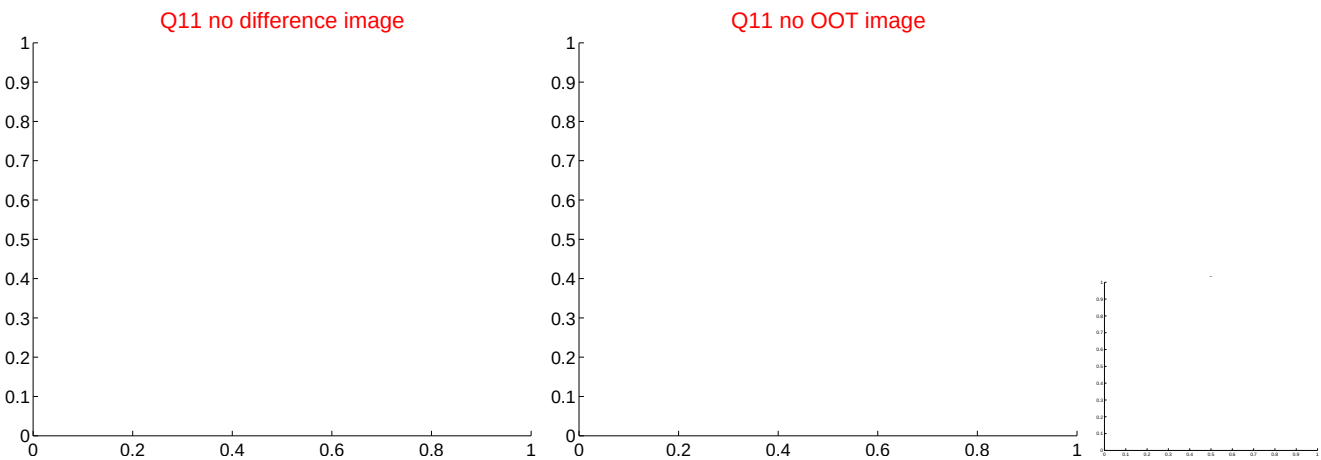


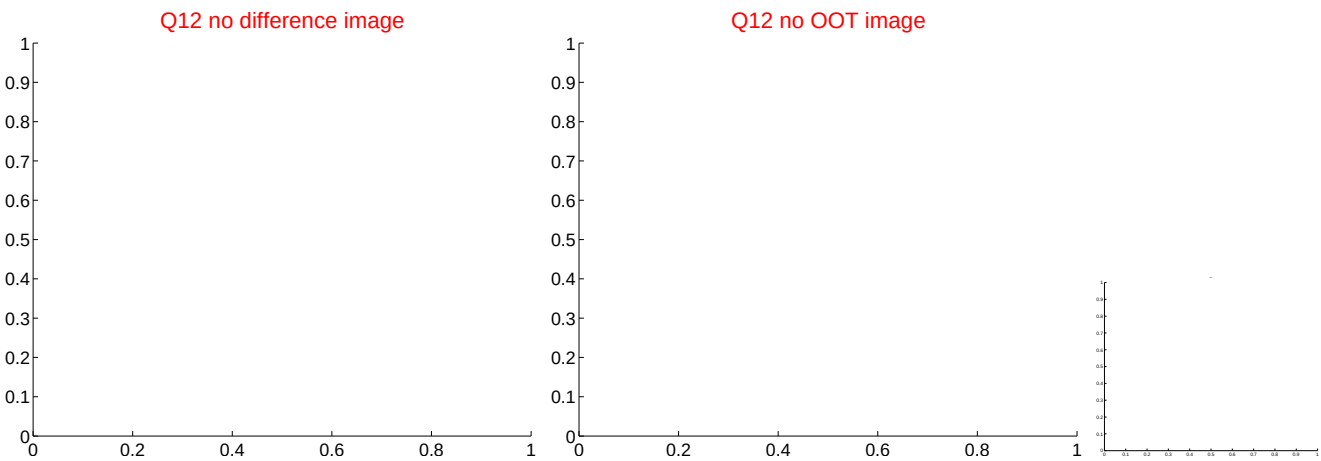


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

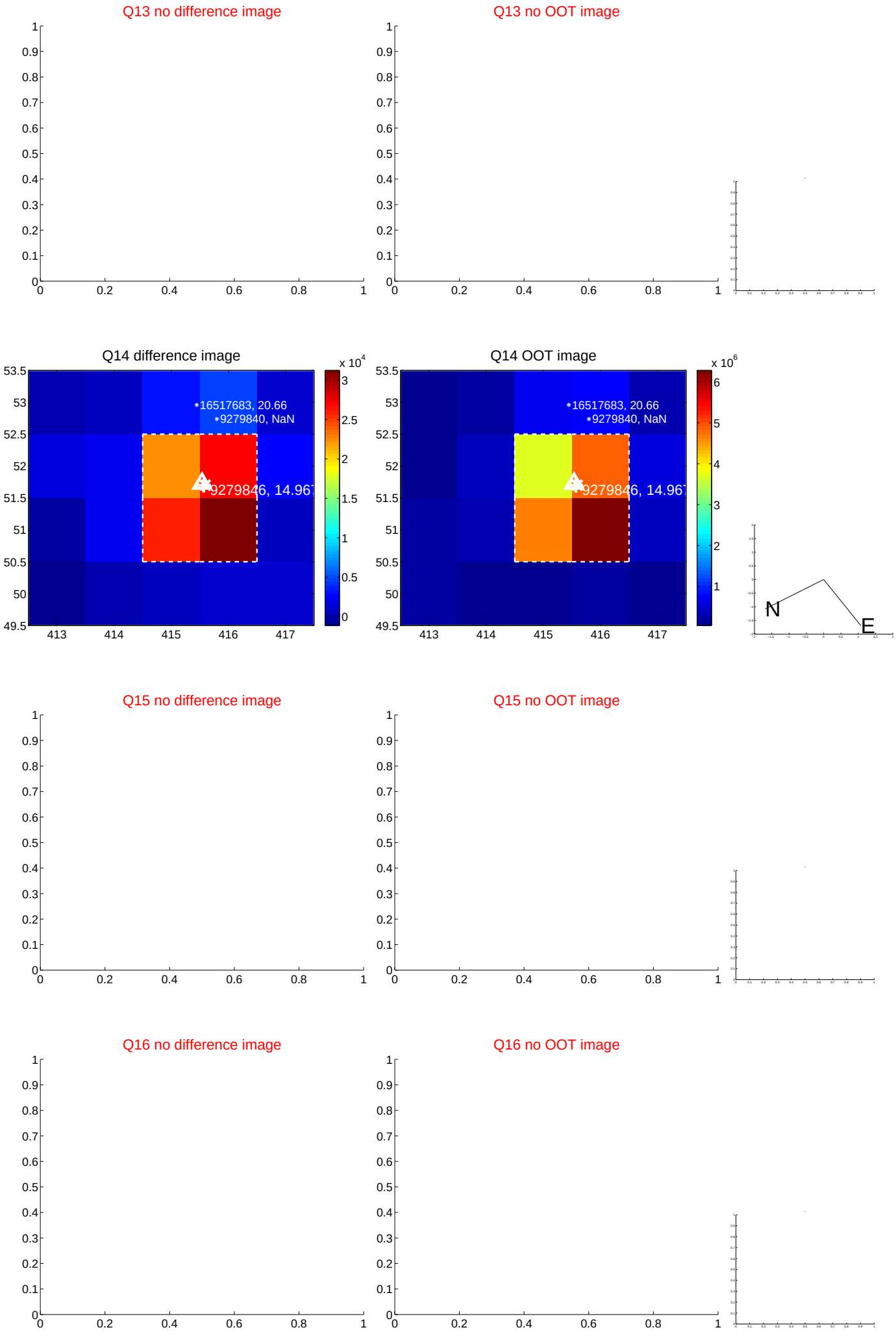




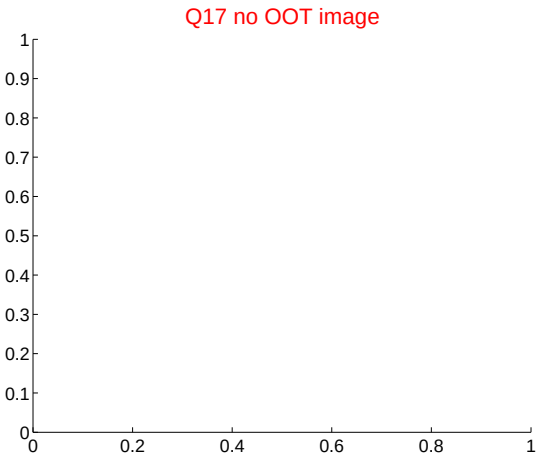


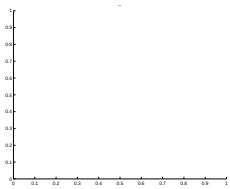


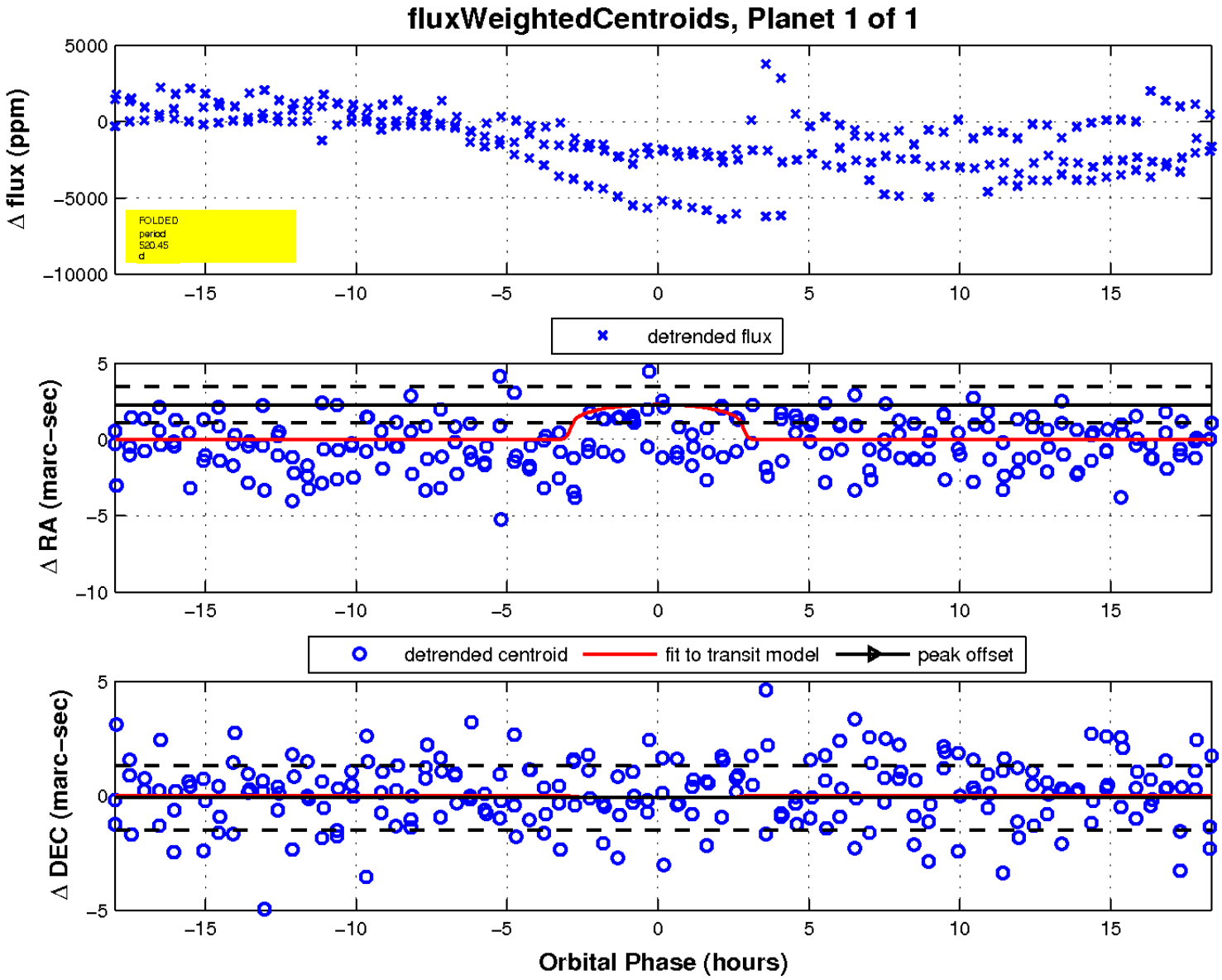
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



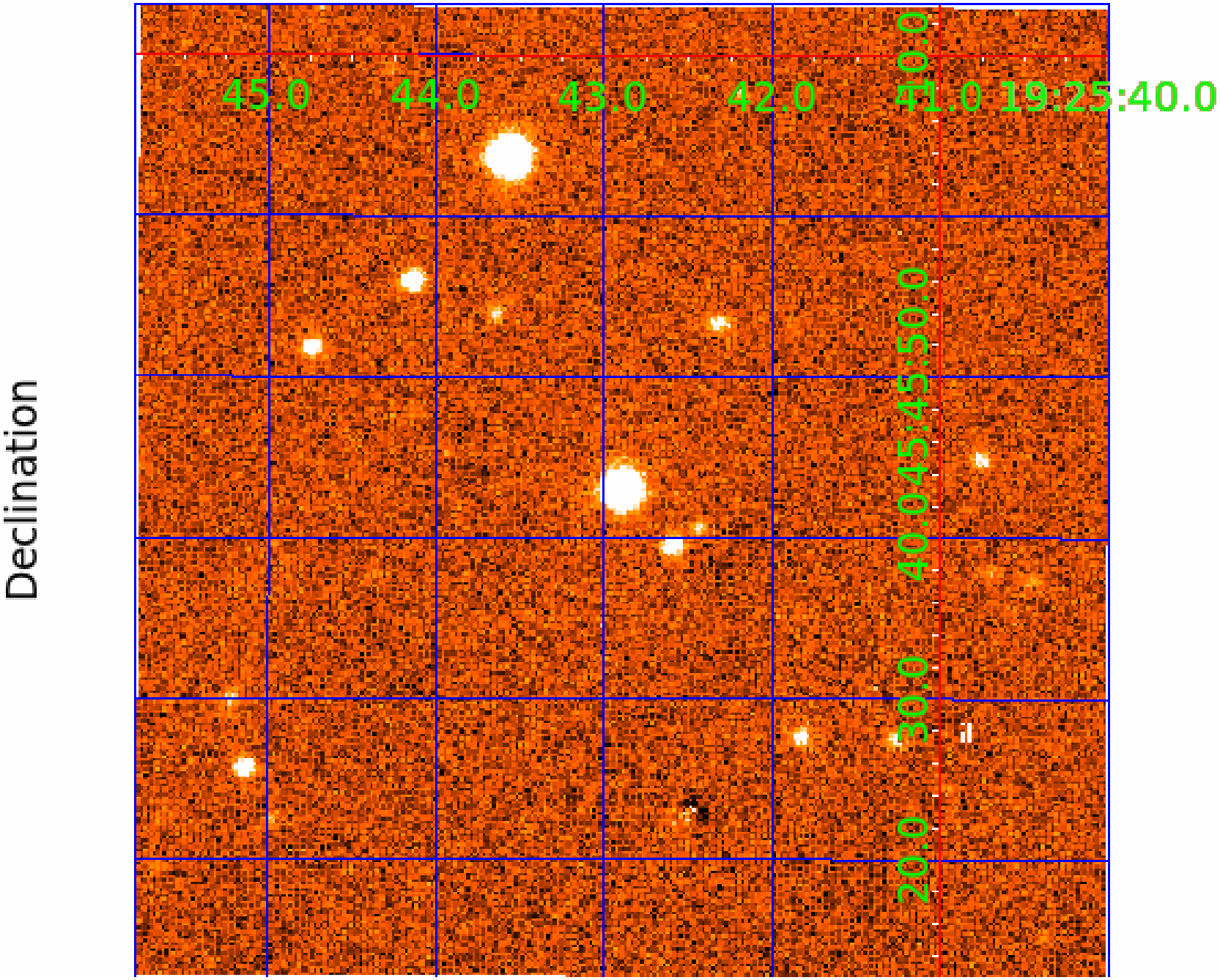
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.







UKIRT Image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